

CHAPTER 91. EVALUATE PART 135 (NINE OR LESS) OPERATOR/ APPLICANT'S INSPECTION AND MAINTENANCE REQUIREMENTS

SECTION 1. BACKGROUND

1. PROGRAM TRACKING AND REPORTING SUBSYSTEM (PTRS) ACTIVITY CODES.

A. Maintenance: 3341

B. Avionics: 5341

3. OBJECTIVE. This chapter provides guidance for evaluating, approving, and administering aircraft inspection and additional maintenance requirements for a Title 14 of the Code of Federal Regulations (14 CFR) part 135, § 135.411(a)(1) operator.

5. GENERAL.

A. The aircraft's type-certificated passenger capacity is the passenger seating capacity as indicated on the Type Certificate (TC) or Supplemental Type Certificate (STC). The manufacturer (the TC holder) may have several approved passenger seating configurations that allow the TC- or STC-approved capacity to be changed by converting seating configurations. Removing passenger seats does not constitute a change in type-certificated capacity unless the resulting cabin configuration conforms to an STC or other approved data.

NOTE: It is not the intent of § 135.411(a)(1) to allow operators to remove or block passenger seats to circumvent maintenance requirements.

B. Except as discussed in the next paragraph, aircraft that are type-certificated for nine or less passenger seats must meet the inspection requirements of 14 CFR part 91, § 91.409 or an Approved Aircraft Inspection Program (AAIP) in accordance with part 135, § 135.419. In either case, the additional maintenance requirements of § 135.421 must also be met.

C. A part 135 (nine or less) operator/applicant may elect to maintain its aircraft under a continuous airworthiness maintenance program (CAMP). Such a program should be approved in accordance with the guidance in Federal Aviation Administration (FAA) Order 8300.10, vol. 2, ch. 64, Evaluate Continuous Airworthiness Maintenance Program/Revision.

7. ANNUAL AND 100-HOUR INSPECTION REQUIREMENTS. Annual and 100-hour inspection requirements are defined in 14 CFR part 43,

appendix D. The operator/applicant may request additional work or special emphasis on certain tasks. However, there is no formal method of including these items on a continuing basis in future inspections. These inspections are suitable for, and should be limited to, aircraft that the operator/applicant will schedule for inspection but that have no particular input for the work to be accomplished (ref. § 91.409(a) and (b)).

9. PROGRESSIVE INSPECTIONS. Each operator/applicant wanting to use a progressive inspection must submit a written request to the district office with jurisdiction over the area in which the operator/applicant is located. The operator/applicant must have the following (ref. § 91.409(d)):

A. A certificated mechanic holding an Inspection Authorization (IA), a certificated airframe repair station, or the aircraft manufacturer to supervise or conduct the inspection.

NOTE: In this instance, the term "supervise" can be taken to mean the monitoring of a mechanic's out-station work to ensure that work is performed in accordance with the procedures of the certificated mechanic with an IA who would otherwise perform the inspection.

B. A current inspection procedures manual that meets the requirements of § 91.409(d)(2).

C. Enough housing and equipment for the necessary disassembly and proper inspection of the aircraft.

D. Appropriate current technical information for the aircraft.

11. PROGRESSIVE INSPECTION INTERVALS.

A. A progressive inspection program must provide for a complete inspection of the aircraft within each 12 calendar-month period. The inspection must be consistent with the manufacturer's recommendations, field service experience, and the kind of operation in which the aircraft is engaged. The inspection schedule must ensure that the aircraft is, at all times, airworthy and conforms to all applicable FAA aircraft specifications, Type Certificate Data Sheets (TCDS),

Airworthiness Directives (AD), and other approved data.

NOTE: A calendar month is the period of time from the first day of a month to the last day of the month. In a calendar month, compliance can be achieved at any time during the month, up to and including the last day of the month. A month is the time from any day of one calendar month to the corresponding day of the next calendar month.

B. Inspection intervals should be based on manufacturer's recommendations, field service experience, malfunction and defect history, and the type of operation in which the aircraft is engaged.

(1) If the operator/applicant needs help establishing inspection intervals, the aviation safety inspector (ASI) should provide assistance based upon experience and knowledge of the particular aircraft.

(2) When an operator/applicant has inadequate knowledge of service problems for a particular aircraft, advise him or her to establish a reasonable initial routine, create detailed inspection intervals, and plan to adjust intervals based on service experience. Make the operator/applicant aware of his or her responsibility for initiating an inspection frequency: This will result in a complete inspection of the aircraft.

C. Requirements.

(1) Before an aircraft can be placed on a progressive inspection program, it must undergo an inspection at least equal to a 100-hour inspection. After this initial inspection, routine and detailed inspections must be conducted as stated in the progressive inspection schedule.

(2) Routine inspections consist of a visual examination or check of the aircraft, appliances, and components and systems without disassembly, if possible.

(3) Detailed inspections consist of a thorough examination of these items for which such disassembly is necessary. For the purposes of this subparagraph, the overhaul of a component or system is considered a detailed inspection.

(4) Before an aircraft can be removed from a progressive inspection program and returned to an annual/100-hour inspection program, the remaining portions of the progressive inspection must be completed.

13. ADDITIONAL MAINTENANCE REQUIREMENTS.

A. Each operator/applicant maintaining aircraft under § 135.411(a)(1) must comply with the additional maintenance requirements of § 135.421. These requirements ensure that major maintenance tasks (overhaul, hot section inspections, etc.) are performed on engines, propellers, rotors, emergency equipment, and medical carry-on oxygen. These requirements do not apply to the airframe and are not intended to impose a CAMP or otherwise increase the aircraft inspection program.

B. Engine requirements apply to the engine itself, including turbo-superchargers, appurtenances, and accessories necessary to its function. It does not include aircraft provisions such as mounts or cowling or accessories such as generators or starters. Title 14 CFR part 1 defines a propeller as including controls normally supplied by the manufacturer. Most propeller TCDS specify the applicable control unit, which should be considered part of the propeller.

C. The operator/applicant may use either the manufacturer's recommended maintenance programs or develop a program that includes equivalent requirements.

D. Manufacturer's requirements, such as pilot pre-flight or other inspection items within the scope of the inspections required by § 135.411(a)(1), should not be included as additional maintenance requirements. To meet the requirements of § 135.421, an operator/applicant may use one of the following.

- The applicable portions of an aircraft manufacturer's recommended maintenance requirements for the engine, propeller, rotor, and emergency equipment
- The manufacturer's programs for individual items
- A combination of both

E. Section 135.421(b) defines a manufacturer's maintenance program as one which is in the manufacturer's maintenance manual or instructions. It does not include individual authorizations or recommendations by a repair facility or manufacturer to a particular operator/applicant.

(1) These manuals and instructions generally include service bulletins (SB), service letters (SL), and other maintenance publications.

(2) SBs and SLs about repairs, alterations, or other items beyond the meaning of the term "maintenance" do not fall within the scope of § 135.421. Compliance is not required unless it is made regulatory (see paragraph 15 below for further

discussion). The operator/applicant may include these items in the additional maintenance program to support higher maintenance intervals or other inspection variables.

F. An operator/applicant may adopt a manufacturer's entire maintenance program. The program must apply to the specific make, model, configuration, etc., and meet the requirements of § 135.421.

(1) If the aircraft manufacturer's program does not include engine overhaul (or comparable heavy maintenance) but the engine manufacturer's program does, the operator/applicant must incorporate the engine manufacturer's program to the degree necessary to meet the engine overhaul requirement. It may be necessary to designate SBs, other manufacturer's maintenance instructions, and a manufacturer's maintenance manual to ensure an adequate program.

(2) Operations specifications (OpSpecs) must show program limitations.

G. Section 135.421 allows operators/applicants to develop their own maintenance program. An operator/applicant-developed program requires FAA approval and the operators/applicant must justify the program. In most cases, these programs are based on a manufacturer's maintenance program, although they may contain variations, such as a higher engine overhaul period. When evaluating the operator/applicant's program, the ASI may consider a program in use by another operator for similar make/model aircraft. In any case, the proposed program should be equivalent to the manufacturer's recommended maintenance program.

(1) Each change to an operator/applicant-developed program requires FAA approval. Changes to a manufacturer's program should be considered but must not be incorporated into an operator/applicant-developed program without specific FAA approval.

(2) Automated OpSpecs will approve an operator/applicant-developed program for use.

H. Section 135.411(a)(1) states in part that the maintenance requirements for aircraft certificated under part 135 for a passenger seating configuration of nine or less passengers requires operators to perform their maintenance under parts 91, 43, and §§ 135.415, 135.416, 135.417, and 135.421.

- Section 135.415 speaks to mechanical reliability reports
- Section 135.417 speaks to mechanical interruption summary reports

- Section 135.421 speaks to additional maintenance requirements

I. The certification requirements for small aircraft, engines, and propellers are covered in parts 23, 33, and 35, respectively. These regulations require that the manufacturers provide Instructions for Continued Airworthiness (ICA) for their products as part of the product certification.

15. MANUFACTURER'S SERVICE BULLETIN REQUIREMENTS.

A. Generally, manufacturers' SBs are classified as MANDATORY, URGENT, or GENERAL in nature. Some manufacturers consider all SBs mandatory and at times have identified them as FAA MANDATORY, giving the impression that the SB is FAA-approved and compliance is required. This is not the case. For an SB to be required, it must be regulatory. The following list has examples of situations when SBs would be regulatory and covers most situations ASIs encounter.

NOTE: For this section only, all references to manufacturer's SBs will encompass all manufacturer's service information.

- If all or a portion of an SB is incorporated as part of an AD
- If the SB is part of the FAA-approved Airworthiness Limitations section of the manufacturer's manual or the TC
- If SBs are incorporated directly or by reference into some type of FAA-approved inspection program, such as an AAIP or CAMP
- If the manufacturer of a product provides revisions to the maintenance manual or instructions for continuing airworthiness on the maintenance performance in the form of SBs
- If the SB is the only FAA-accepted data available on the maintenance to be performed
- If SBs are listed as an additional maintenance requirement in the certificate holder's OpSpecs

B. SBs are provided by the manufacturer to advise the operator of conditions or procedures which may or should be improved or changed. Some of the conditions or procedures in SBs may include:

- Structural cracking
- Component failure
- Electrical shorts
- Inspection procedures
- Recommended overhaul times
- Repetitive inspections

C. SBs are often used for corrective action and/or compliance with manufacturer recommendations. In some cases, as listed below, SBs are issued for safety of flight items without an AD being issued, such as one-time inspections, suspect parts, and improper maintenance procedures. SBs may describe damage and repair procedures that exceed Structural Repair Manual (SRM) requirements. Operational procedures are included as well.

D. Other items such as lubrication, inspection procedures, adjustment procedures, and minor modifications, may be required on a one-time basis. Environmental problems will also be included. SBs appear to fall in the following classes:

(1) *Urgent*. The manufacturer believes the bulletin should be accomplished and that safety may be a factor. This type of SB may be used as a corrective action for FAA-issued ADs.

(2) *Routine*. This SB is of a general nature and will provide better maintenance reliability, but does not discuss items in which safety may be a factor.

(3) *Procedural*. This SB explains a change in the way to accomplish a basic function but in a different way.

(4) *Environmental*. This SB explains a procedural change due to the type of operating or maintenance conditions such as wet or dry, or hot or cold climate conditions.

(5) *Repetitive*. This SB may require a repetitive inspection of an area or part. This may be short-term until a repair can be made, but it may also be a long-term procedure.

17. MAINTENANCE PROGRAM APPROVAL FOR CARRY-ON OXYGEN EQUIPMENT USED FOR MEDICAL PURPOSES.

A. Part 135, § 135.91(a)(1)(ii) requires that equipment used for storage, generation, or dispensing of oxygen and carried aboard an aircraft must be maintained in accordance with the operator/applicant's approved maintenance program. Part 135 does not have specific rules for maintaining and testing pressure cylinders. However, procedures in Department of Transportation (DOT) regulations are considered acceptable for controlling hydrostatic and life-limits of pressure cylinders. The Research and Special Programs Administration establishes standards that pressure cylinders must meet to be eligible for transportation purposes (see Title 49 of the Code of Federal Regulations (49 CFR), parts 100 through 199).

B. The schedule for performing inspections and maintenance, whether by time-in-service, calendar time, system cycles, or combination must comply with

49 CFR part 173. Instructions and procedures for conducting the maintenance program, including the necessary checks and test, must be in sufficient detail for maintenance personnel to correctly perform the maintenance without further guidance.

C. Title 49 CFR part 173, §§ 173.301(a)(6) and 173.301(a)(7) state that a container for which a required periodic retest is due must not be charged and shipped until it has been properly retested. Pressure cylinders used as aircraft equipment that remain charged or partially charged on the date a hydro-static test is due may remain in service beyond the test date if the cylinder is tested before its next full or partial refilling.

D. The maintenance program for carry-on oxygen equipment for medical purposes is approved for use in OpSpecs D104 as an item of emergency equipment.

19. REVISING TIME LIMITATIONS.

A. Revisions to inspection and overhaul time limitations for powerplants, propellers, rotors, and emergency equipment normally are based on service experience. An operator may request authorization for a time increase by submitting justification to support the requested increase. The data must indicate that the increase will not negatively affect the airworthiness of the aircraft. If service records indicate that any item consistently requires repair, adjustment, or other maintenance within the current time limitations due to damage, wear, or deterioration, the operator must take corrective action.

B. Time limitations may be established in terms of hours of operation, cycles, or calendar time. Time limitations for items on which deterioration is not necessarily a function of hours of operation (such as electronic units and emergency flotation equipment) should be established in terms of calendar time.

C. Increases in engine overhaul intervals may be approved in increments mutually agreed upon by the operator and the ASI. Increases should be based on satisfactory service experience and/or a tear-down examination of at least one exhibit engine. The engine chosen for exhibit should have operated to within 5 percent of the currently-approved time interval.

D. The operator must justify an inspection time interval increase by providing sampling documentation that supports the proposed increase. The principal maintenance inspector (PMI) must ensure that the part or engine sampled represents the total sample population and that it has not been given special treatment or undergone early inspections by the operator. A substantial portion of the time in service should have been accrued by the current operator. Industry experience and manufacturer's

recommendations for similar equipment can be used as supporting justification, but should not be the sole source.

E. Time extensions will not exceed 200 hours on

reciprocating engines or 10 percent of the approved time interval on turbine-powered engines.

F. Time limitation extensions are approved and authorized for use by amending OpSpecs.

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SECTION 2. PROCEDURES

1. PREREQUISITES AND COORDINATION REQUIREMENTS.

A. Prerequisites:

- Knowledge of the regulatory requirements of 14 CFR parts 43, 91, and 135
- Successful completion of the General/Air Carrier Aviation Safety Inspectors Indoctrination course, or previous equivalent

B. *Coordination.* This task requires coordination between the airworthiness ASIs.

3. REFERENCES, FORMS, AND JOB AIDS.

A. References:

- Operator/applicant's manual
- 49 CFR part 173
- Order 8300.10, Airworthiness Inspector's Handbook, vol. 2, ch. 64, Evaluate Continuous Airworthiness Maintenance Program/Revision; ch. 83, Evaluate Part 135 (Nine or Less) Approved Aircraft Inspection Program; and ch. 84, FAR Part 121/135 Operations Specifications

B. Forms:

- FAA Form 8400-8, Operations Specifications

C. Job Aids. None.

5. PROCEDURES.

A. *Brief the Operator/Applicant.* Provide the operator/applicant with policies and regulatory requirements. Schedule and conduct a preliminary meeting, if necessary.

B. *Review the Schedule of Events.* If this task is performed as part of an original certification, review the schedule of events to ensure that the task can be accomplished according to the schedule.

C. *Evaluate the General Manual Requirements.* Ensure that the operator/applicant's policies and procedures manual describes procedures, levels of authority, and information appropriate to the inspection and maintenance requirements of § 135.411(a)(1).

D. *Evaluate the Inspection and Maintenance Requirements.* Accomplish the following:

(1) Determine if the aircraft meets the nine or less passenger seat requirements of § 135.411(a)(1).

(2) Verify with the operator/applicant the type of program with which the aircraft is to be inspected.

(a) If the operator/applicant would prefer to have progressive inspections, ensure that the requirements of § 91.409(d) are met.

(b) If the operator/applicant would prefer to be on an AAIP, ensure that the requirements of § 135.419 and vol. 2, ch. 83, Evaluate Part 135 (Nine or Less) Approved Aircraft Inspection Program, are met.

(c) If the operator/applicant would prefer to have a 100-hour/annual inspection, ensure that the requirements of § 91.409(a) and (b) are met.

(d) If the operator/applicant intends to haul cargo only, ensure that the requirements of §§ 91.409(a), 91.409(d), or 135.419 are met.

(3) Determine if the operator/applicant meets the additional maintenance requirements of § 135.421 for engines, propellers and rotors (as applicable), and emergency equipment.

(a) Determine if the operator/applicant intends to use the manufacturer's maintenance program or develop one of its own.

(b) Determine the time-in-service intervals for which the operator/applicant intends to apply.

E. *Analyze the Findings.* Discuss with the operator/applicant any discrepancies and the changes required to resolve them.

7. TASK OUTCOMES.

A. File PTRS Data Sheet.

B. When all requirements for acceptance and approval of the inspection and maintenance programs have been met, completion of this task will result in approval or amendment of OpSpecs.

C. *Document the Task.* File all supporting paperwork in the operator/applicant's office file.

9. FUTURE ACTIVITIES. Normal surveillance.